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|---|---|---|
| **PORTSMOUTH NAVAL SHIPYARD** | **)** | **DEPARTMENTAL** |
| **YORK COUNTY** | **)** | **FINDINGS OF FACT AND ORDER** |
| **KITTERY, MAINE** | **)** | **PART 70 AIR EMISSION LICENSE** |
| **A-452-70-C-R** | **)** | |

After review of the Part 70 License amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, Section 344 and Section 590, the Department finds the following facts:

## I. REGISTRATION

### A. Introduction

| | |
|---|---|
| FACILITY | Portsmouth Naval Shipyard (PNS) |
| LICENSE NUMBER | A-452-70-C-R |
| LICENSE TYPE | Part 70 License Renewal |
| NAICS CODE | 336611- Ship Building and Repair |
| NATURE OF BUSINESS | National Security (Submarine Repair for U.S. Navy) |
| FACILITY LOCATION | Kittery, Maine |
| DATE OF LICENSE ISSUANCE | January 25, 2006 |
| LICENSE EXPIRATION DATE | January 25, 2011 |

### B. Emission Equipment

The following emission units are addressed by this Part 70 License:

| EMISSION UNIT ID | LOCATION | UNIT CAPACITY | UNIT TYPE |
|---|---|---|---|
| Furnace/forge | Building 76 | 5.2 MMBtu/hr | Fuel burning equipment |
| Boiler #1 | Building 72 | 87 MMBtu/hr | Fuel burning equipment |
| Boiler #2 | Building 72 | 87 MMBtu/hr | Fuel burning equipment |
| G01 | Building 72 | 20 MMBtu/hr | Backup diesel generator |
| G02 | Building 72 | 20 MMBtu/hr | Backup diesel generator |
| Despatch Oven | Building 240 | 3.1 MMBtu/hr | Fuel burning equipment |
| 5.5 MW Turbine Generator #1 | Building 72 | 67.8 MMBtu/hr (turbine)<br>47.2 MMBtu/hr (duct burner) | Fuel burning equipment (co-generation project) |

| | | | |
|---|---|---|---|
| 5.5 MW Turbine Generator #2 | Building 72 | 67.8 MMBtu/hr (turbine) 45.3 MMBtu/hr (duct burner) | Fuel burning equipment (co-generation project) |
| Air Compressor | Misc buildings/dry docks | 2.7 MMBtu/hr | diesel powered process |
| Air Compressor | Misc buildings/dry docks | 2.7 MMBtu/hr | diesel powered process |
| Air Compressor | Misc buildings/dry docks | 2.7 MMBtu/hr | diesel powered process |
| G03 | Building 29 | 3.0 MMBtu/hr | backup generator |
| G04 | Building 72 | 6.0 MMBtu/hr | backup generator |
| G05 | Dry Dock 1 | 3.0 MMBtu/hr | backup generator |
| G06 | Dry Dock 2 | 3.0 MMBtu/hr | backup generator |
| G07 | Dry Dock 2 | 3.5 MMBtu/hr | backup generator |
| G08 | Dry Dock 3 | 3.0 MMBtu/hr | backup generator |
| Coating operations | Misc buildings/dry docks | n/a | process equipment |
| Wood working | Misc buildings/dry docks | n/a | process equipment |
| Fuel dispensing | n/a | n/a | miscellaneous equipment |
| Cold cleaning degreasers | Misc buildings/dry docks | 3-7 $ft^2$ (freeboard surface area) | miscellaneous equipment |
| Radionuclides | Misc buildings/dry docks | 1800 CFM & 1200 CFM ventilation systems | miscellaneous equipment |

Portsmouth Naval Shipyard has several insignificant activities which do not need to be listed in the emission equipment table above. A list of the insignificant activities and the reasons why the activity is considered insignificant can be found in the PNS Chapter 140 renewal application submitted on September 27, 2004.

C. Application Classification

The application for PNS does not include the licensing of increased emissions. In the summer of 2005, PNS plans to change Solar engines for Turbine #1 after 35,000 hours of operation. This scheduled replacement turbine project is considered at this time to be routine maintenance repair and replacement. The original Solar Turbine engine model 60-7300S is no longer manufactured, therefore, PNS plans to replace the existing Solar Turbine engine model with a Solar Turbine model Taurus 60-7800S. This is considered insignificant based on minimal actual emissions increases and minimal environmental degradation. Any future replacements that increase power output shall follow New Source Review regulations and an updated Best Available Control Technology Analysis is required. There are no increases in licensed allowed emissions or fuel caps requested. Therefore the license is considered to be a renewal Part 70 License issued under Chapter 140 of the Department's regulations for a Part 70 source.

D. General Facility Requirements

Portsmouth Naval Shipyard is subject to the regulations listed below, in addition to the regulations listed for specific units as described in Section II of this license.

| CITATION | REQUIREMENT SUMMARY |
|---|---|
| Chapter 100 | Definitions Regulation |
| Chapter 101 | Visible Emissions Regulation |
| Chapter 102 | Open Burning |
| Chapter 103 | Fuel Burning Equipment Particulate Emission Standard |
| Chapter 105 | General Process Source Particulate Emission Standard |
| Chapter 106 | Low Sulfur Fuel |
| Chapter 109 | Emergency Episode Regulation |
| Chapter 110 | Ambient Air Quality Standard |
| Chapter 116 | Prohibited Dispersion Techniques |
| Chapter 118 | Gasoline Dispensing Facilities Vapor Control |
| Chapter 129 | Surface Coating Facilities |
| Chapter 130 | Solvent Degreasers |
| Chapter 134 | Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds (VOC RACT) |
| Chapter 137 | Emission Statements |
| Chapter 138 | Reasonably Available Control Technology for Facilities that emit Nitrogen Oxides (NOx RACT) |
| Chapter 140 | Part 70 Air Emission License Regulations |

## II. FACILITY AND EMISSION UNIT DESCRIPTION

*Process Description*

The Portsmouth Naval Shipyard is a repair, retrofit and general maintenance facility for the U.S. Navy's submarines. Activities at the Shipyard are overseen by the Naval Sea Systems Command, based in Washington, D.C.

Submarines brought to PNS for maintenance are moored at one of fourteen berths and/or one of three dry dock facilities, depending on the nature and extent of repairs and maintenance to be performed. There were two classes of submarines that were overhauled at the Shipyard, the older 637 Class boat and the newer 688 Class boat. Currently the Shipyard no longer overhauls 637 Class submarines, only 688 Class submarines are overhauled at this time. A submarine may spend up to eighteen months in dry dock and another six months at a berth while repairs and maintenance take place. An overhaul may include such functions as systems

upgrading and sandblasting and painting of the hull. An overhaul may also include system upgrading for internal components, such as ballast tanks and other structures, some of which are removed from the boat and reconditioned in one or more of the facility's numerous buildings. Activities at the shipyard include use of teflon, epoxy, other surface coatings, sealants, adhesives, metal cleaning agents and degreasers. Other activities at PNS include abrasive blasting, fiberglass manufacturing, welding, woodworking, and operation of a central heating plant and several emergency generators.

The power and steam generation equipment consists of two dual fuel-fired 87 MMBtu/hr boilers, two 20 MMBtu/hr diesel-fired backup generators, and two natural gas-fired turbines with supplemental duct burners/HRSG. The equipment fires natural gas, and #2 oil with 0.05% sulfur content as backup fuel to supply steam while the duct burner will provide additional steam. The boilers will provide 70,000 #/hr of steam each. The generators will operate as backup for the gas turbines to provide electricity when utility or source-generated service power is unavailable.

*Federally Applicable Requirements*

Before proceeding with the specific emission units requirements, the following table describes the federal requirements applicable to PNS facility-wide:

| Regulatory Citation | Requirements (Emission limits, operational standards, etc.) | Federally Enforceable |
|---|---|---|
| 40 CFR 61 Subpart I | PNS demonstrates compliance with the standards listed in Part 61.102 using alternative procedures approved by the EPA, as documented in a letter to the Department of the Navy from the EPA dated 10 October, 1997. | Yes |
| 40 CFR 68 | PNS completed the required risk management plan by June 1999 deadline. | Yes |
| 40 CFR 82 Subpart B | Subpart B applies to facilities which service their own motor vehicles. This subpart requires that service technicians who repair or service motor vehicle air conditioning units be certified. This certification covers the use of approved equipment to recover and recycle certain refrigerants. | Yes |
| 40 CFR 82 Subpart F | Subpart F requires that ozone depleting refrigerants be recovered during the servicing of non-motor vehicle air conditioning or refrigerant equipment. PNS will ensure that any disposal or repair work done at the Shipyard is done only by technicians who are properly certified. | Yes |
| 40 CFR 60 Subpart Dc | Standards of Performance for Small Industrial-Commercial Steam Generating Units. This subpart applies to steam generating units constructed after June 1989 with a maximum heat input between 10 and 100 MMBtu/hr. PNS has two boilers rated at 87 MMBtu/hr each that are applicable to this Subpart. | Yes |
| 40 CFR 60 Subpart GG | Standards of Performance for Stationary Gas Turbines, for which construction is commenced after October 3, 1977. PNS operates two turbine generators applicable to the requirements set forth in Subpart GG. | Yes |

| | | |
|---|---|---|
| 40 CFR 61 Subpart M | PNS will follow appropriate procedures for asbestos emission control listed in Subpart 61.145. These procedures are compiled in an environmental corporation manual. PNS will also follow the standards of Subpart 61.150 for the disposal of asbestos. All asbestos is properly disposed of at PNS's hazardous waste disposal facility. | Yes |
| 40 CFR Part 70 | PNS submitted a timely and complete 40 CFR Part 70 operating license renewal application consistent with an EPA approved Maine Title V program | Yes |

BPT ANALYSIS

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

**Turbines/Duct Burners**

PNS operates two turbine generators designated as Turbine #1 and Turbine #2. The gas fired Turbine #1 was licensed and installed in 2000 and Turbine #2 was installed and licensed in 2003. Turbine #1 uses only natural gas and Turbine #2 uses natural gas as the primary fuel and uses very low sulfur #2 oil as the backup fuel. The #1 gas turbine generator is scheduled for a mandatory engine replacement in 2005 after 35,000 hours of operation. PNS plans to replace the existing Solar Turbine engine model Taurus 60-7300S, which it no longer manufacturers, with a Solar Turbine model Taurus 60-7800S. The model 60-7800S is the same engine used in the #2 gas turbine generator installed in 2003 and licensed in Amendment #1, A-452-70-B-A. This engine is slightly larger than the original and is not considered a "like-kind" replacement. However, actual emissions for each pollutant will have minimal increases, in the range of 1-3 tons per year each. The emissions increases from the new engine are minimal and are considered insignificant. The replacement turbine will continue to operate within the current licensed limits and no increase in emission limits or fuel caps will result from this change.

The following is considered BPT based on the information and subsequent licensing of these units.

*Sulfur Dioxide ($SO_2$) BPT*

PNS had undergone a Best Available Control Technology (BACT) analysis in Air Emission License Amendment #1 (A-452-70-B-A), issued April 16, 2003. Per the BACT analysis in License Amendment A-452-70-B-A, it required low sulfur fuel to control $SO_2$ emissions from the turbines and HRSG/duct burners. The PNS Turbine #1 uses only natural gas and Turbine #2 uses natural gas as the primary fuel and uses very low sulfur #2 oil as the backup fuel. Because of the fuel's low sulfur content and the annual operation restriction on #2 oil use, no additional $SO_2$ controls are needed for BPT.

*Nitrogen Oxides (NOx) BPT*

Per the BACT analysis in License Amendment A-452-70-B-A, it required the combustion turbines to be equipped with SOLONOx burners, which are dry low NOx combustors. Since PNS performed a BACT analysis for these units and the requirements were at least as stringent as Chapter 138, it was determined that NOx RACT was met. The Clearinghouse lists clean burn controls, dry low NOx combustors including SOLONOx burners, proper turbine design and operation for control of similar size turbines and duct burners. The duct burners and turbines are equipped with low NOx burners and have a NOx rate of 0.10 lb/MMBtu each on gas. This is considered BPT for NOx emissions.

*Particulate (PM) BPT*

Per the BACT in License Amendment A-452-70-B-A, it was determined that good combustion, low sulfur fuel, and the use of gas is considered BPT for PM for the turbines and duct burners.

*Volatile Organic Compounds (VOC) and Carbon Monoxide (CO) BACT*

Per the BACT analysis in License Amendment A-452-70-B-A, it required to control VOC and CO emissions from the equipment through good combustion practices, including routine preventative maintenance operations, which is now BPT. The vendor's guaranteed concentrations of 35 ppmvd for CO and 25 ppmvd for VOC on gas are BPT for the turbines. The vendor estimated a CO rate of 0.06 lb/MMBtu and a VOC rate of 0.006 lb/MMBtu on gas from the HRSG/duct burner.

*Streamlining for Turbines/Duct burners*

The turbines are subject to New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart GG - Standards of Performance for Stationary Gas Turbines, for which construction is commenced after October 3, 1977.

**40 CFR Part 60, Subpart GG** establishes the following emission limits:
Pursuant to 40 CFR Part 60.333, $SO_2$ is limited to (a) 0.015% by volume @ 15% $O_2$ on a dry basis or (b) the fuel sulfur content shall not exceed 0.8% by weight.

Pursuant to 40 CFR Part 60.332(a)(2) $NO_x$ is limited based on the following equation:

$NO_x$ - $STD = 0.015*(14.4/Y) + F,$

where STD is the allowable $NO_x$ emissions (percent by volume at 15% $O_2$ and on a dry basis), Y is a function of the manufacturer's rated load (kilojoules per watt hour), and F is a function of the fuel-bound nitrogen.

The NSPS, for turbines less than 100 MMBtu/hr capacity, establishes a nominal NOx emission limit for PNS of 150 ppmdv at 100% load. Subpart GG also limits the fuel sulfur content to no more than 0.8% by weight. While the NSPS does apply, the BPT is more stringent; compliance with BPT will insure compliance with the NSPS emission limits.

*Compliance Assurance Monitoring*

The natural gas turbines at PNS do not have add-on control equipment to reduce emissions, therefore, PNS is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) (§64.2) for this equipment.

**Existing Boilers**

Portsmouth Naval Shipyard implemented a project to downsize and modernize the Power Plant since the initial Part 70 Air Emissions License was issued March 1, 2000. The existing Boilers #2, #3, #4, and #5 were removed from service and replaced, per license amendment A-452-70-B-A issued April 16, 2003. PNS now operates two dual fuel fired boilers for steam and heating needs throughout the base. The two boilers each rated at 87 MMBtu/hr are subject to 40 CFR Part 60 Subpart Dc, “Standards of Performance for Small Industrial-Commercial Steam

Generating Units". This subpart applies to steam generating units constructed after June 1989 with a maximum heat input between 10 and 100 MMBtu/hr.

*Sulfur Dioxide ($SO_2$) BPT*

Per the BACT analysis in License Amendment A-452-70-B-A, it required the Boilers to fire natural gas as the primary fuel and very low sulfur #2 oil (0.05% by weight) as the secondary fuel for the boilers, which is now considered BPT. PNS shall meet the Compliance and Performance Test Methods, Emissions Monitoring, and Reporting and Recordkeeping requirements for Sulfur Dioxide as specified in 40 CFR Part 60 Subpart Dc.

*Nitrogen Oxides (NOx) BPT*

Per the BACT analysis in License Amendment A-452-70-B-A, it required the boilers to be equipped with low NOx burners and flue gas recirculation (FGR), which is now considered BPT. Also, BPT requires that the boilers meet a NOx rate limit on gas of 0.10 lb/MMBtu and 0.20 lb/MMBtu on oil.

*Particulate Matter (PM) BPT*

Per the BACT analysis in License Amendment A-452-70-B-A, it required the boilers to operate under proper combustion practices and use of low sulfur fuels, therefore BPT for PM is met through the use of natural gas and very low sulfur fuel oil under proper combustion practices.

PNS shall meet the Compliance and Performance Test Methods, Emissions Monitoring, and Reporting and Recordkeeping requirements for Particulate Matter as specified in 40 CFR Part 60 Subpart Dc.

*Volatile Oraganic Compounds (VOC) and Carbon Monoxide (CO) BPT*

Per the BACT analysis in License Amendment A-452-70-B-A, it required good combustion practices for the control of CO and VOC emissions which is now considered BPT for boilers of this size.

*Streamlining for Boilers*

Opacity

PNS accepts streamlining for opacity requirements. 40 CFR Part 60, Subpart Dc, Chapter 101 Section 2(A)(1) of the Department's regulations, and Best Practical

Technology (BPT) requirements are applicable. NSPS states that the opacity must be less than 20% on a six minute block average, except for one 6-minute period per hour of not more than 27 percent opacity. The NSPS opacity limit is most stringent and is considered BPT for this renewal Part 70 air license.

Sulfur Dioxide

PNS accepts streamlining for the sulfur dioxide emission limit requirement. 40 CFR Part 60, Subpart Dc, Chapter 106 of the Department's regulations, and BPT requirements are applicable. NSPS specifies that $SO_2$ emissions must be less than 0.5 lb/MMBtu, or fuel with a sulfur content less than 0.5% must be used. The fuel sulfur content of 0.05% to be used by the equipment meets this standard. The BPT sulfur content limit is more stringent. Therefore, only the more stringent sulfur content limit is included in this license.

*Compliance Assurance Monitoring*

The boilers at PNS do have Flue Gas Recirculation to control NOx emissions, however, the boilers do not have a NOx potential to emit greater than 100 tons per year without this control. Therefore, PNS is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM).

**Backup Generators and Compressors' Diesel Engines**

The fuel usage for the combined backup generators is limited to 166,175 gallons/year based on a 12-month rolling total. This will limit NOx emissions to less than twenty tons per year. BPT is met through good combustion practices, computerized controls, and maintaining a log to demonstrate compliance with the annual fuel limit for the combined generators. PNS shall limit the sulfur content of the #2 fuel oil to no greater than 0.05% by weight. Fuel receipts shall be kept to demonstrate compliance with the sulfur content and fuel usage limits.

PNS operate diesel fired compressors for various activities at the Shipyard. To reduce NOx, PNS shall retard the injection timing on the compressors' diesel engines. Unless the diesel units are considered insignificant per Chapter 140 of the Department's regulations, all other reciprocating engines must record and operate less than 500 hours per year and operate according to the requirements of the Air Bureau's March 1995 SICE Guideline.

**Painting and Coating Operations**

PNS is in attainment for all US. EPA designated criteria air pollutants, except for ozone which York county is designated as moderate nonattainment. Maine is currently part of the Ozone Transport Region (OTR), and thus, the entire State of Maine is subject to the nonattainment requirements for ozone. Chapter 134 of the Maine Air Regulations requires facilities that have the potential to emit forty (40) tons or more of VOC per calendar year to apply VOC RACT (Reasonable Available Control Technology) to their applicable VOC emissions. PNS has a source specific RACT determination for volatile organic compounds. PNS proposed to the Department a VOC emission rate from non-exempt sources of 48 tons per year as a facility-wide emission limitation. PNS has implemented good housekeeping practices and has implemented reformulated coatings. Chapter 134 VOC RACT requirements are incorporated into this Part 70 license renewal.

The following summary of regulatory requirements applies to the coating and painting areas of the shipyard. PNS is subject to the following summary of regulatory requirements:

The total non-exempt fugitive VOC emissions (not including VOC emissions from degreasing operations) from the Portsmouth Naval Shipyard shall not exceed 48 tons per year based on a 12 month rolling total updated monthly and shall not exceed 15 tons during any one calendar month, where:

i. the pounds of VOC emissions are calculated using the PNS Hazardous Substance Management System (HSMS). The HSMS tracking system, approved by the MEDEP, is described in Enclosure (1) of the July 11, 1997 submittal. The HSMS is used to track all hazardous materials, VOC, and HAP emissions. PNS may create an equivalent system, approved by the Department, to track VOC and HAP emissions.
ii. The HSMS shall provide what coatings are used and actual emissions. The system shall provide a demonstration that the gallons of specific coating used multiplied by the actual VOC content is less than the allowable RACT emissions limits.

*(Periodic Monitoring)*

PNS shall use the HSMS tracking system, or equivalent system approved by the Department, as noted above. The system tracks hazardous material issuance and use, and quantifies VOC emissions by material balance. PNS shall meet the following Volatile Organic Hazardous Air Pollutants (VOHAP) limits for Marine Coatings:

| | VOHAP limits [abc] | | |
|---|---|---|---|
| **Coating Categories** | **Grams/liter coating (minus water and exempt compounds)** | **Grams/liter solids temp ≥ 4.5°C** | **Grams/liter solids temp < 4.5°C [d]** |
| General Use | 340 | 571 | 728 |
| Specialty Air Flask | 340 | 571 | 728 |
| Antenna | 530 | 1,439 | |
| Antifoulant | 400 | 765 | 971 |
| Heat resistant | 420 | 841 | 1,069 |
| High-gloss | 420 | 841 | 1,069 |
| High-temperature | 500 | 1,237 | 1,597 |
| Inorganic zinc high build | 340 | 571 | 728 |
| Military exterior | 340 | 571 | 728 |
| Mist | 610 | 2,235 | --- |
| Navigational aids | 550 | 1,597 | --- |
| Nonskid | 340 | 571 | 728 |
| Nuclear | 420 | 841 | 1,069 |
| Organic zinc | 360 | 630 | 802 |
| Pretreatment wash primer | 780 | 11,095 | --- |
| Repair and maint. of thermoplastics | 550 | 1,597 | --- |
| Rubber camouflage | 340 | 571 | 728 |
| Sealant for thermal spray aluminum | 610 | 2,235 | --- |
| Special marking | 490 | 1.178 | --- |
| Specialty interior | 340 | 571 | 728 |
| Tack coat | 610 | 2,235 | --- |
| Undersea weapons systems | 340 | 571 | 728 |
| Weld-through precon. primer | 650 | 2,885 | --- |

a. The limits are expressed in two sets of equivalent units. Either set of limits may be used for the compliance procedure described in 63.785(c)(1) of the "National Emission Standards for Hazardous Air Pollutants for Shipbuilding and Ship Repair Operations", but only the limits expressed in units of g/l solids (nonvolatiles) shall be used for the compliance procedures described in 63.785(c)(2) through (4).
b. VOC (including exempt compounds listed as HAP) shall be used as a surrogate for VOHAP for those compliance procedures described in 63.785(c)(1) through (3).
c. To convert from g/l to lb/gal, multiply by (3.785 liters/gal)(1/453.6 grams/lb) or 1/120.
d. These limits apply during cold-weather time periods, as defined in 63.782. Cold-weather allowances are not given to coatings in categories that permit over a 40 percent VOHAP content by volume. Such coatings are subject to the same limits regardless of weather conditions.

1. PNS may use up to fifty gallons of any combination of coatings which exceed the VOC emission limitation of the above table during any twelve consecutive month period.

2. In the event that small amounts of specialty coating with a higher VOC content than is allowed is needed, then emissions averaging over a 30 day period will be allowed to provide flexibility. When using the emissions averaging, PNS must show compliance by averaging actual daily emissions over the 30 day period.

*Coating Operations*

The Coating operations are subject to Chapter 129 of the Department's regulations. Chapter 129 states that "only Section 10 of Chapter 129 apply to Shipbuilding and Ship Repair". Section 10 of Chapter 129 incorporate by reference the requirements of the Shipbuilding MACT 40 CFR Part 63, Subpart II (National Emission Standards for Hazardous Air Pollutants for Shipbuilding and Ship Repair (Surface Coating) Operations". PNS is not subject to the Shipbuilding MACT due to their acceptance of the limit of 10 tons per year of any individual HAP and 25 tpy of total HAP. However, PNS being an "area" source, will meet the requirements set forth in EPA's Shipbuilding Control Technique Guidance, which are similar to the requirements of the Shipbuilding MACT.

*Paint Booths and Sand Blasting*

PNS does abrasive blasting and spray painting. These operations take place in containment such as removable submarine covers, sandblast booths, paint booths, etc. Emissions from sandblast booths or paint booths vent through bag houses or air filters and are limited to 10% opacity on a six minute block average. The bag houses and air filters at PNS are used to control PM emissions and operate properly at all times abrasive blasting or painting is being performed. To ensure proper baghouse collection efficiency, a gauge is used to monitor the pressure drop across the bags and is maintained between manufacturer's specifications. The air filters do not have pressure drop readings.

PNS has developed an inspection checklist for bag houses and air filters. The facility performs a weekly inspection of bag houses and air filters in continuous use to ensure there are no broken, torn, or clogged bags or filters that would allow excess emissions. The weekly inspections of the bag houses and air filters are required only when they are in use. Depending on workload, there are periods when some bag houses or air filters are not used for several weeks or months. Any bag houses or air filters that have not been in use for more than one week are inspected upon startup.

-i Whenever compliance testing is required, USEPA Method 9, shall be used. When approved in writing an equivalent test method may be substituted for the required test method.

- ii PNS maintains and operates a pressure drop monitor at the baghouse.

-iii PNS maintains the following records:

a) A log of the name or initials of the operator performing each weekly baghouse inspection and the time each inspection took place.

b) A description of any maintenance or repairs of the baghouse that resulted from the inspection.

*Fuel Dispensing Operations*

The fuel dispensing operations which pertain to gasoline storage and dispensing shall meet the requirements of Chapter 118:

A. The fill pipe shall extend within 6 inches of the bottom of the gasoline storage tank. [MEDEP Chapter 118]

B. The licensee shall maintain records of the monthly and annual throughput of gasoline. [MEDEP Chapter 118]

*Degreaser Units*

Unit Size and Age
PNS uses several parts washers and solvent degreasers. These degreasers are maintained by an outside contractor and are used for the cleaning of various components/parts for the Shipyard's operation. The solvent degreasers are subject to Chapter 130 of the Maine DEP regulations.

**Facility Emissions and Fuel Use Cap**

PNS shall not exceed a maximum firing of 2.26 billion cubic feet of natural gas and 4,893,800 gallons of #2 fuel oil, with a maximum sulfur content of 0.05% by weight, per year based on a 12 month rolling total. PNS shall limit total fuel consumption in the two backup generators to less than 166,175 gallons per year based on a 12-month rolling total. Based on allowable fuel use in the combustion sources and allowable emissions from the processes at PNS, total facility emissions are limited to the following:

Total Licensed Allowed Annual Emissions for the Facility
(used to calculate the annual license fee)

| Equipment | PM | $PM_{10}$ | $SO_2$ | $NO_X$ | CO | VOC |
|---|---|---|---|---|---|---|
| Small boilers (<10 MMBtu/hr) | 4.7 | 4.7 | 18.4 | 13.6 | 1.3 | 0.3 |
| Compressors | 10.7 | 10.7 | 10.0 | 153 | 33 | 12.2 |
| Back-up generators | 1.4 | 1.4 | 1.3 | 20 | 4.3 | 1.6 |
| Diesel units | 0.5 | 0.5 | 0.6 | 19.7 | 1.3 | 0.5 |
| Turbine generator #1 and Duct Burner | 8.3 | 8.3 | 2.7 | 37.9 | 28.4 | 1.5 |
| Turbine generator #2 and Duct Burner | 8.9 | 8.9 | 7.6 | 69.2 | 39.7 | 11.2 |
| Boilers #1 & #2 | 8.3 | 8.3 | 11.1 | 29.6 | 46.3 | 2.4 |
| Process VOC emissions | -- | -- | -- | -- | -- | 48 |
| **TOTALS** | **42.8** | **42.8** | **51.7** | **343** | **154.3** | **76.2** |

## III. AMBIENT AIR QUALITY ANALYSIS

PNS previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards. An additional ambient air quality analysis is not required for this Part 70 License Renewal.

## ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that emissions from this source:

- will receive Best Practical Treatment;
- will not violate applicable emissions standards
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants the Part 70 License A-452-70-C-R pursuant to MEDEP Chapter 140 and the preconstruction permitting requirements of MEDEP Chapter 115 and subject to the standard and special conditions below.

All federally enforceable and State-only enforceable conditions in existing air licenses previously issued to PNS pursuant to the Department's preconstruction permitting requirements in Chapters 108 or 115 have been incorporated into this Part 70 license, except for such conditions that MEDEP has determined are obsolete, extraneous or otherwise environmentally insignificant, as explained in the findings of fact accompanying this permit. As such the conditions in this license supersede all previously issued air license conditions.

Federally enforceable conditions in this Part 70 license must be changed pursuant to the applicable requirements in Chapter 115 for making such changes and pursuant to the applicable requirements in Chapter 140.

For each standard and special condition which is state enforceable only, state-only enforceability is designated with the following statement: **Enforceable by State-only**.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

**STANDARD STATEMENTS**

(1) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both; [MEDEP Chapter 140]

(2) The Part 70 license does not convey any property rights of any sort, or any exclusive privilege; [MEDEP Chapter 140]

(3) All terms and conditions are enforceable by EPA and citizens under the CAA unless specifically designated as state enforceable. [MEDEP Chapter 140]

(4) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license; [MEDEP Chapter 140]

(5) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [MEDEP Chapter 140]

(6) Compliance with the conditions of this Part 70 license shall be deemed compliance with any Applicable requirement as of the date of license issuance and is deemed a permit shield, provided that:

A. Such Applicable and state requirements are included and are specifically identified in the Part 70 license, except where the Part 70 license term or condition is specifically identified as not having a permit shield; or

B. The Department, in acting on the Part 70 license application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the Part 70 license includes the determination or a concise summary, thereof.

Nothing in this section or any Part 70 license shall alter or effect the provisions of Section 303 of the CAA (emergency orders), including the authority of EPA under Section 303; the liability of an owner or operator of a source for any violation of Applicable requirements prior to or at the time of permit issuance; or the ability of EPA to obtain information from a source pursuant to Section 114 of the CAA.

The following requirements have been specifically identified as not applicable based upon information submitted by the licensee.

| **Standard** | **Program:** | **Reason Why Not Applicable to the Portsmouth Naval Shipyard** |
|---|---|---|
| National Emission Standards for Hazardous Air Pollutants 40 CFR Part 61 | Subpart V. Equipment Leaks<br><br>(Fugitive Emission Sources) | Subpart is applicable to pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, flanges, and other connectors, vessels, and control devices that operate in volatile hazardous air pollutant (VOHAP) service. VOHAP includes only Benzene and Vinyl Chloride. No equipment using benzene or vinyl chloride is in service at PNS. |

| | | |
|---|---|---|
| Standards of Performance for New Stationary Sources 40 CFR Part 60 | Subpart D Fossil Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971 | Applicable to fossil fuel fired steam generating units with maximum heat input rates greater than 250 MMBtu/hr. Portsmouth Naval Shipyard has no boilers with a total heat input of 250 MMBtu/hr. Therefore, the standard is not applicable. |
| | Subpart Da Electric Utility Steam Generation Units for Which Construction is Commenced After September 18, 1978 | No affected units or facilities. |
| Standards of Performance for New Stationary Sources 40 CFR Part 60 Continued… | Subpart Db Industrial-Commercial Steam Generating Units | Applicable to steam generating units that commenced Construction, modification, or reconstruction after June 19, 1984 with maximum heat input rates greater than 100 MMBtu/hr. All PNS boilers were manufactured and installed prior to this date. The conversion project does not meet the modification/reconstruction definition. |
| Standards of Performance for New Stationary Sources 40 CFR Part 60 | Subpart K Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commen After June 11, 1973, and Prior to May 19, | No affected units or facilities. Definition of petroleum liquids exempts #2 and #6 fuel oils. |
| | Subpart Ka Storage Vessels for Petroleum Liquid for Which Construction, Reconstru or Modification Commenced After May 1 and Prior to July 23, 1984 | No affected units or facilities. Definition of petroleum liquids exempts #2 and #6 fuel oils. |
| | Subpart Kb Storage Vessels for Volatile Organic Liquids for Which Construction, Reconstruction, or Modification Commen After July 23, 1984 | Applicable to Volatile Organic Liquid storage tanks with a capacity greater than or equal to 40 cubic meters (10,567 gal) that were constructed, modified or reconstructed after July 23, 1984. PNS does not have any tanks constructed after 7/23/84. Standard is not applicable. |
| National Emission Standards for Hazardous Air Pollutants 40 CFR Part 63 | Subpart II Shipbuilding and ship repair (surface coating) facilities which are majo sources of HAPs are required to control emissions using the maximum achievable technology (MACT). | PNS is not a major source of HAPs. The facility has total potential HAP emissions of approximately 13 tpy and all individual potential HAP emissions are below the 10 tpy threshold. |

| ***Section Title*/Description (State Regulations)** | **Comment** |
|---|---|
| *(Chapter 104) Incinerator Particulate Emission Standard*<br><br>This regulation establishes a limitation on the amount of particulate matter allowed to be emitted from each of several categories and sizes of incinerators and a limitation on the opacity of emissions from all incinerators. | Portsmouth Naval Shipyard has no incinerators and therefore this regulation is not applicable. |
| *(Chapter 111). Petroleum Liquid Storage Vapor Control*<br><br>This regulation requires all owners of fixed roof storage tanks with capacities greater than 39,000 gallons, storing gasoline, crude oil or any petroleum liquid whose vapor pressure is greater than 1.0 psia to install floating roofs to reduce the hydrocarbon vapors lost to the atmosphere. | Portsmouth Naval Shipyard does not have any volatile petroleum liquids with vapor pressure greater than 1.0 psia stored in fixed roof storage vessels with capacities greater than 39,000 gallons. |
| *(Chapter 112). Bulk Terminal Petroleum Liquid Transfer Requirements*<br><br>This regulation requires bulk gasoline terminals loading tank trucks or trailers and who dispense 20,000 gallons or more of gasoline per day to install a vapor control system and requires tank truck tightness certification. This system must control gasoline vapors so that not more than 35 milligrams of vapor escapes for each liter of gasoline transferred. | *Bulk gasoline terminal* means a gasoline storage facility which receives gasoline from refineries...and delivers gasoline to bulk gasoline plants...and has a daily throughput of more than 20,000 gallons of gasoline." [Chapter 100 (22)]. PNS is not a bulk gasoline terminal and is therefore not applicable. |
| *(Chapter 117) Source Surveillance*<br><br>This regulation specifies which air emission sources are required to operate continuous emission monitoring systems (CEMS). | PNS fires natural gas in the boilers and generators and is therefore not required to install continuous opacity monitors per Chapter 117. PNS does not operate any fuel burning equipment greater than 200 MMBtu/hr, therefore, NOx CEMs is not required. |
| *(Chapter 138) Reasonably Available Control Technology (RACT) for Facilities that Emit Nitrogen Oxides*<br><br>This regulation establishes RACT standards for stationary sources of NOx which have the potential to emit quantities of NOx equal to or greater than 100 tons per year. | The gas conversion project was completed by the scheduled dates which met Chapter 138 requirements. In 2003, PNS underwent significant changes to the power and steam generation plant at the Shipyard. The new equipment was subject to Best Available Control Technology which is at least as stringent as Chapter 138 requirements. |

(7) The Part 70 license shall be reopened for cause by the Department or EPA, prior to the expiration of the Part 70 license, if:

A. Additional Applicable requirements under the CAA become applicable to a Part 70 major source with a remaining Part 70 license term of 3 or more years. However, no opening is required if the effective date of the requirement is

later than the date on which the Part 70 license is due to expire, unless the original Part 70 license or any of its terms and conditions has been extended pursuant to Chapter 140;

B. Additional requirements (including excess emissions requirements) become applicable to a Title IV source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the Part 70 license;

C. The Department or EPA determines that the Part 70 license contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Part 70 license; or

D. The Department or EPA determines that the Part 70 license must be revised or revoked to assure compliance with the Applicable requirements.

The licensee shall furnish to the Department within a reasonable time any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the Part 70 license or to determine compliance with the Part 70 license.

[MEDEP Chapter 140]

(8) No license revision or amendment shall be required, under any approved economic incentives, marketable licenses, emissions trading and other similar programs or processes for changes that are provided for in the Part 70 license. [MEDEP Chapter 140]

## STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions and this license (Title 38 MRSA §347-C);

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 140; [MEDEP Chapter 140]

(3) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request; [MEDEP Chapter 140]
**Enforceable by State-only**

(4) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 MRSA §353.

(5) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions; [MEDEP Chapter 140]
**Enforceable by State-only**

(6) The licensee shall retain records of all required monitoring data and support information for a period of at least six (6) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Part 70 license. The records shall be submitted to the Department upon written request or in accordance with other provisions of this license; [MEDEP Chapter 140]

(7) The licensee shall comply with all terms and conditions of the air emission license. The submission of notice of intent to reopen for cause by the Department, the filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a Part 70 license or amendment shall not stay any condition of the Part 70 license. [MEDEP Chapter 140]

(8) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. perform stack testing under circumstances representative of the facility's normal process and operating conditions:

1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department

that equipment may be operating out of compliance with emission standards or license conditions;

2. to demonstrate compliance with the applicable emission standards; or

3. pursuant to any other requirement of this license to perform stack testing.

B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. submit a written report to the Department within thirty (30) days from date of test completion.

[MEDEP Chapter 140]
**Enforceable by State-only**

(9) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicates emissions in excess of the applicable standards, then:

A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[MEDEP Chapter 140]
**Enforceable by State-only**

(10) The licensee shall maintain records of all deviations from license requirements. Such deviations shall include, but are not limited to malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emission unit itself that is not consistent with the terms and conditions of the air emission license.

A. The licensee shall notify the Commissioner within 48 hours of a violation of any emission standard and/or a malfunction or breakdown in any component part that causes a violation of any emission standard, and shall report the probable cause, corrective action, and any excess emissions in the units of the applicable emission limitation;

B. The licensee shall submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component part causes a violation of any emission standard, together with any exemption requests.

Pursuant to 38 MRSA § 349(9), the Commissioner may exempt from civil penalty an air emission in excess of license limitations if the emission occurs during start-up or shutdown or results exclusively from an unavoidable malfunction entirely beyond the control of the licensee and the licensee has taken all reasonable steps to minimize or prevent any emission and takes corrective action as soon as possible. There may be no exemption if the malfunction is caused, entirely or in part, by poor maintenance, careless operation, poor design or any other reasonably preventable condition or preventable equipment breakdown. The burden of proof is on the licensee seeking the exemption under this subsection.

C. All other deviations shall be reported to the Department in the facility's semiannual report.

[MEDEP Chapter 140]

(11) Upon the written request of the Department, the licensee shall establish and maintain such records, make such reports, install, use, and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [MEDEP Chapter 140]

(12) The licensee shall submit semiannual reports of any required periodic monitoring. All instances of deviations from Part 70 license requirements must be clearly

identified in such reports. All required reports must be certified by a responsible official. [MEDEP Chapter 140]

(13) The licensee shall submit a compliance certification to the Department and EPA at least annually, or more frequently if specified in the applicable requirement or by the Department. The compliance certification shall include the following:

(a) The identification of each term or condition of the Part 70 license that is the basis of the certification;

(b) The compliance status;

(c) Whether compliance was continuous or intermittent;

(d) The method(s) used for determining the compliance status of the source, currently and over the reporting period; and

(e) Such other facts as the Department may require to determine the compliance status of the source;

[MEDEP Chapter 140]

## SPECIAL CONDITIONS

(14) **Boilers #1 and #2**:

[MEDEP Chapter 140, Air License Amendment A-452-70-B-A, BACT issued 4/16/03]

a. PNS is licensed to operate the following boilers:

| EMISSION UNIT ID | LOCATION | UNIT CAPACITY |
|---|---|---|
| Boiler #1 | Building 72 | 87 MMBtu/hr |
| Boiler #2 | Building 72 | 87 MMBtu/hr |

b. PNS will limit Boilers #1 and #2 emissions to the following when firing natural gas:

| Pollutant | lb/MMBtu | Boilers #1 and #2 (lb/hr) each |
|---|---|---|
| PM | 0.05 | 4.4 |
| $PM_{10}$ | -- | 4.4 |
| $SO_2$ | -- | 0.1 |
| $NO_X$ | 0.10 (natural gas) | 8.7 |
| CO | -- | 6.5 |
| VOC | -- | 0.4 |

PNS shall be limited to the following short-term emission limits when firing #2 fuel oil as back-up:

| Pollutant | lb/MMBtu | Boilers #1 and #2 (lb/hr) each |
|---|---|---|
| PM | 0.08 | 7.0 |
| $PM_{10}$ | -- | 7.0 |
| $SO_2$ | -- | 8.7 |
| $NO_X$ | 0.20 (oil back-up) | 17.4 |
| CO | -- | 8.7 |
| VOC | -- | 0.9 |

c. PNS shall operate each boiler such that the visible emissions do not exceed an opacity of 20% on a six (6) minute block average basis, except for one 6-minute period per hour of not more than 27% opacity, demonstrated in accordance with 40 CFR Part 60, Appendix A, Method 9. Based on the type of fuel for which the boilers will be designed and when operating in a manner consistent with good air pollution control practices, it is unlikely the boilers will exceed the opacity limits. Therefore, initial and periodic monitoring by the source for opacity in the form of visible emission testing in accordance with 40 CFR Part 60, Appendix A, Method 9 is not required at this time.

d. Boilers #1 and #2 shall comply with all operating and documentation requirements of 40 CFR Part 60 Subpart Dc (NSPS). When using #2 fuel oil, PNS shall maintain records of monthly #2 fuel use indicating the quantity of fuel consumed and the percent (%) sulfur content of the fuel. The sulfur content of the #2 fuel shall be less than or equal to 0.05% by weight documented by fuel receipts or records from the supplier.

e. PNS shall perform NOx and particulate stack testing to demonstrate their ability to meet the NOx and particulate limits shown in Special Condition #14b upon Department request. If NOx stack testing is required, it shall be done for both fuels (when operating with natural gas and when operating with #2 fuel oil) however, the particulate stack test can be done when operating with #2 fuel oil only. [MEDEP Chapter 140, BPT]

(15) **Natural gas Turbine Generator #1:**
[MEDEP Chapter 140, Initial Part 70 Air License A-452-70-A-I, BACT issued 3/1/00]

a. PNS is licensed to operate a co-generation project that consists of a 5.5 megawatt (MW) natural gas-fired turbine with supplemental duct burning.

b. PNS shall meet the following requirements for the natural gas fired turbine generator #1 with a heat recovery steam generator and supplemental duct burner:

The natural gas-fired combustion turbine shall meet the following limits:

| Pollutant | Load | ppmdv | lb/MMBtu | lb/hr |
|---|---|---|---|---|
| PM | All | -- | 0.02 | 1.3 |
| $PM_{10}$ | All | -- | -- | 1.3 |
| $SO_2$ | All | -- | -- | 0.4 |
| NOx | All | 25 (corrected to 15% $O_2$) | 0.10 | 6.7 |
| CO | All | -- | -- | 5.7 |
| VOC | All | -- | -- | 2.4 |

The natural gas-fired duct burner shall not exceed the following emission limits:

| Pollutant | Load | ppmdv | lb/MMBtu | lb/hr |
|---|---|---|---|---|
| PM | All | -- | 0.02 | 1.0 |
| $PM_{10}$ | All | -- | -- | 1.0 |
| $SO_2$ | All | -- | -- | 0.1 |
| NOx | All | 25 (corrected to 15% $O_2$) | 0.10 | 4.7 |
| CO | All | -- | -- | 3.8 |
| VOC | All | -- | -- | 0.2 |

c. Exhaust from Turbine Generator #1 shall vent through a 167 foot above ground stack. Visible emissions from the turbine shall not exceed 10% on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a 3-hour period, demonstrated in accordance with 40 CFR Part 60, Appendix A, Method 9.

d. For scheduled turbine generator replacements, actual emissions for each criteria pollutant will be less than 3 tons per year to be considered insignificant and there will be no increase from current licensed allowed emissions.

(16) **Natural gas Turbine Generator #2 with oil back-up:**
[MEDEP Chapter 140, Air License Amendment A-452-70-B-A, BACT issued 4/16/03]

a. PNS is licensed to operate a co-generation natural gas-fired designated as Turbine #2, with fuel oil as back-up and with supplemental duct burning. PNS shall meet

the following requirements for the 5.5 MW natural gas fired Turbine Generator #2 with a heat recovery steam generator and supplemental duct burner:

b. When firing natural gas, the combustion turbine #2 shall meet the following limits:

| Pollutant | Load | ppmdv | lb/MMBtu | lb/hr |
|---|---|---|---|---|
| PM | All | -- | 0.02 | 1.3 |
| $PM_{10}$ | All | -- | -- | 1.3 |
| $SO_2$ | All | -- | -- | 0.23 |
| NOx | All | 25 (corrected to 15% $O_2$) | 0.10 | 6.7 |
| CO | All | -- | -- | 5.7 |
| VOC | All | -- | -- | 2.4 |

When firing natural gas, the duct burner shall not exceed the following emission limits:

| Pollutant | Load | ppmdv | lb/MMBtu | lb/hr |
|---|---|---|---|---|
| PM | All | -- | 0.02 | 0.9 |
| $PM_{10}$ | All | -- | -- | 0.9 |
| $SO_2$ | All | -- | -- | 0.1 |
| NOx | All | 25 (corrected to 15% $O_2$) | 0.10 | 4.5 |
| CO | All | -- | -- | 2.7 |
| VOC | All | -- | -- | 0.3 |

When firing #2 oil, the combustion turbine #2 shall meet the following limits:

| Pollutant | ppmdv | lb/MMBtu | lb/hr |
|---|---|---|---|
| PM | -- | 0.08 | 5.0 |
| $PM_{10}$ | -- | -- | 5.0 |
| $SO_2$ | -- | -- | 3.2 |
| NOx | 96 (corrected to 15% $O_2$) | 0.40 | 25.2 |
| CO | -- | -- | 8.0 |
| VOC | -- | -- | 2.3 |

When firing #2 oil, the duct burner shall not exceed the following emission limits:

| Pollutant | lb/MMBtu | lb/hr |
|---|---|---|
| PM | 0.12 | 5.4 |
| $PM_{10}$ | -- | 5.4 |

| | | |
|---|---|---|
| $SO_2$ | -- | 2.3 |
| NOx | 0.20 | 8.8 |
| CO | -- | 4.4 |
| VOC | -- | 0.5 |

c. Exhaust from the 5.5 MW turbine generator shall vent through a 167 foot above ground stack. Visible emissions from the turbine shall not exceed 10% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block averages in a 3-hour period, demonstrated in accordance with 40 CFR Part 60, Appendix A, Method 9.

d. PNS has performed an initial NOx stack test and has followed-up with another NOx stack test on the turbine after installation two years ago. PNS shall perform NOx and particulate stack testing to demonstrate their ability to meet the NOx and particulate limits shown in Condition (16)b upon Department request.

e. For scheduled turbine generator replacements, actual emissions for each criteria pollutant will be less than 3 tons per year to be considered insignificant and there will be no increase from current licensed allowed emissions

(17) **Backup Generators**:

[MEDEP Chapter 140, Air License Amendment A-452-70-B-A, BACT issued 4/16/03]

The two backup generators for the Shipyard's project shall comply with each of the following:

a. PNS shall limit total fuel consumption to less than 166,175 gallons per year based on a 12-month rolling total.

b. PNS shall keep a log documenting the date and time of generator start-up and shutdown.

c. The backup generators shall fire only #2 fuel oil with a sulfur content not to exceed 0.05% by weight. Compliance can be demonstrated through fuel receipts.

d. Emissions from each of the generators shall not exceed the following:

| Pollutant | lb/MMBtu (each) | lb/hr (each) |
|---|---|---|
| PM | 0.12 | 0.7 |
| PM10 | - | 0.7 |
| $SO_2$ | - | 1.0 |
| NOx | - | 34.3 |
| CO | - | 2.2 |
| VOC | - | 0.8 |

e. Visible emissions from the generators shall not exceed 20% opacity on a 6-minute block average, except for no more than 2 six-minute block averages in a 3-hour period.

(18) PNS shall not exceed a maximum firing of 2.26 billion cubic feet of natural gas for the boilers and turbine generators and 4,893,800 gallons of #2 fuel oil, for the generators and as backup for the boilers and turbine per year based on a 12 month rolling total. The #2 fuel oil is limited to a maximum fuel sulfur content of 0.05% by weight with compliance of fuel use and sulfur content based on fuel delivery records and fuel receipts.
[MEDEP Chapter 140, Air License Amendment A-452-70-B-A, BACT issued 4/16/03]

(19) **Painting and Coating Operations**:

a. PNS is subject to the following requirements in order to minimize VOC emissions from painting and coating operations.

The total non-exempt fugitive VOC emissions (not including VOC emissions from degreasing operations) from the Portsmouth Naval Shipyard shall not exceed 48 tons per year based on a 12 month rolling total updated monthly and shall not exceed 15 tons during any one calendar month, where:

i. the first 12 months rolling total shall end on December 31, 1996;
ii. the pounds of VOC emissions are calculated using the PNS Hazardous Substance Management System (HSMS). The tracking system HSMS is described in Enclosure (1) of the July 11, 1997 submittal. The HSMS is used to track all hazardous material, VOC, and HAP emissions. PNS may create an equivalent system, approved by the Department, to track VOC and HAP emissions.
iii. The HSMS shall provide what coatings are used and actual emissions. The system shall provide a demonstration that the gallons of specific

coating used multiplied by the actual VOC content is less than the allowable emissions. Allowable emissions are determined by the gallons of coating used multiplied by the RACT emission limits.

[MEDEP Air Emissions License Amendment, A-452-71-F-M, issued 7/25/97]

b. PNS shall use the HSMS tracking system, or equivalent system approved by the Department, as noted above. PNS shall meet the following Volatile Organic HAP (VOHAP) limits for Marine Coatings:

| **Coating Categories** | **Grams/liter coating (minus water and exempt compounds)** | **Grams/liter solids temp ≥ 4.5°C** | **Grams/liter solids temp < 4.5°C** |
|---|---|---|---|
| General Use | 340 | 571 | 728 |
| Specialty Air Flask | 340 | 571 | 728 |
| Antenna | 530 | 1,439 | |
| Antifoulant | 400 | 765 | 971 |
| Heat resistant | 420 | 841 | 1,069 |
| High-gloss | 420 | 841 | 1,069 |
| High-temperature | 500 | 1,237 | 1,597 |
| Inorganic zinc high build | 340 | 571 | 728 |
| Military exterior | 340 | 571 | 728 |
| Mist | 610 | 2,235 | --- |
| Navigational aids | 550 | 1,597 | --- |
| Nonskid | 340 | 571 | 728 |
| Nuclear | 420 | 841 | 1,069 |
| Organic zinc | 360 | 630 | 802 |
| Pretreatment wash primer | 780 | 11,095 | --- |
| Repair and maint. of thermoplastics | 550 | 1,597 | --- |
| Rubber camouflage | 340 | 571 | 728 |
| Sealant for thermal spray aluminum | 610 | 2,235 | --- |
| Special marking | 490 | 1.178 | --- |
| Specialty interior | 340 | 571 | 728 |
| Tack coat | 610 | 2,235 | --- |
| Undersea weapons systems | 340 | 571 | 728 |
| Weld-through precon. primer | 650 | 2,885 | --- |

PNS may use up to fifty gallons of any combination of coatings which exceed the VOC emission limitation of the above table during any twelve consecutive month period.

In the event that small amounts of specialty coating with a higher VOC content is needed, then emissions averaging over a 30 day period will be allowed to provide flexibility. When using the emissions averaging, PNS must show compliance by actual daily emissions averaged over the 30-day period.

[MEDEP Air Emissions License Amendment, A-452-71-F-M, issued 7/25/97]

c. PNS, for the purpose of demonstrating ongoing non-applicability to the Shipbuilding MACT and ongoing compliance with VOC RACT requirements, shall continue to track HAP and VOC use and report the results to the MEDEP annually as is currently required under Chapter 137. PNS shall limit total HAP emissions to less than 25 tons per year and shall limit any individual HAP to less than 10 tons per year.
[MEDEP Air Emissions License Amendment, A-452-71-D-A, issued 10/21/96]

d. PNS shall maintain "Good Housekeeping" practices, including but not limited to: careful application of aerosol spray materials, sealing of VOC material containers to reduce evaporative loss, proper personnel training in the use of VOC application equipment and clean-up activities, and proper handling of all VOC containing materials in a manner to minimize the likelihood of spills.
[MEDEP Air Emissions License Amendment, A-452-71-D-A, issued 10/21/96]

(20) **Parts Washer** [MEDEP Chapter 130, BPT]

Parts washers at PNS are subject to MEDEP Chapter 130.

A. PNS shall keep records of the amount of solvent added to each parts washer.
B. The following are exempt from the requirements of Chapter 130:
   1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
   2. Wipe cleaning; and,
   3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.
C. The following standards apply to remote reservoir cold cleaning machines that are applicable sources under Chapter 130.
   1. PNS shall attach a permanent conspicuous label to each unit summarizing the following operational standards:
      (i) Waste solvent shall be collected and stored in closed containers.
      (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
      (iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed

only within the freeboard area of the cold cleaning machine.

(iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.

(v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.

(vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.

(vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material shall be immediately stored in covered containers.

(viii) Work area fans shall not blow across the opening of the degreaser unit.

(ix) The solvent level shall not exceed the fill line.

2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches

(21) Emissions from sandblast booths or paint booths shall vent through bag houses or air filters and shall be limited to 10% opacity on a six minute block average. The bag houses and air filters at PNS must be used to control PM emissions and operated properly at all times abrasive blasting or painting is being performed. To ensure proper baghouse collection efficiency, a gauge will be used to monitor the pressure drop across the bags and be maintained between manufacturer's specifications. The air filters do not have pressure drop readings.

PNS will develop an inspection checklist for bag houses and air filters. The facility shall perform a weekly inspection of bag houses and air filters in continuous use to ensure there are no broken, torn, or clogged bags or filters that would allow excess emissions. The weekly inspections of the bag houses and air filters are required only when they are in use. Depending on workload, there are periods when some bag houses or air filters are not used for several weeks or months. Baghouses or air filters which have not been in use for more than one week shall be inspected upon startup.

-i Whenever compliance testing is required, USEPA Method 9, shall be used. When approved in writing an equivalent test method may be substituted for the required test method.

- ii PNS shall install, operate, calibrate and maintain a pressure drop monitor at the baghouse.

-iii PNS shall maintain the following records:

a) A log of the name or initials of the operator performing each weekly baghouse inspection and the time each inspection took place.

b) A description of any maintenance or repairs of the baghouse that resulted from the inspection.

[MEDEP Chapter 140, Initial Part 70 Air License A-452-70-A-I, BACT issued 3/1/00]
**Enforceable by State-Only**

(22) PNS shall ensure that all rented diesel compressors comply with current air emission standards. The sulfur content of all diesel fuel used by PNS shall not exceed 0.05% by weight. The diesels that operate the cranes meet RACT by their current configuration, maintenance schedule, and operation. All other stationary reciprocating engines are operated less than 500 hours per year as emergency/standby sources. The emergency generators' hours of operations shall be recorded in a log book. Generator units less than 3 MMBtu/hr are considered insignificant per Chapter 140 Appendix B, Section B and therefore do not need to be included in the hours of operation log book.
[MEDEP Chapter 140, Initial Part 70 Air License A-452-70-A-I, BACT issued 3/1/00]

(23) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20 percent, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20 percent in any one (1) hour. [MEDEP Chapter 101]

(24) **General Process Sources**

Visible emissions from any general process source, not otherwise described in this license, shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [MEDEP Chapter 101]

(25) **Gasoline Storage Tank**

A. The fill pipe shall extend within 6 inches of the bottom of the gasoline storage tank. [MEDEP Chapter 118]

B. The licensee shall maintain records of the monthly and annual throughput of gasoline. [MEDEP Chapter 118]

(26) **Insignificant Activities**

Once during each semi-annual reporting period, the licensee shall inspect and determine whether the categorically insignificant activities are in compliance with all applicable requirements. The licensee shall record in a log the results of this inspection.

[MEDEP Chapter 140, BPT]

(27) **Monitoring and Recordkeeping Requirements**

[MEDEP Chapters 140 and 117]

A. The following are required recordkeeping for Periodic Monitoring:
   1. PNS shall maintain the Hazardous Substance Management System (HSMS) to show compliance with the VOC and HAP limits set in this license.
   2. PNS shall maintain all fuel use records and fuel sulfur content receipts.
   3. PNS shall document routine baghouse inspections.

B. The following is identified as Parameter Monitors:
   1. Pressure drop monitoring for baghouses

C. Each parameter monitor must record accurate and reliable data. If the parameter monitor is recording accurate and reliable data less than 98% of the source operating time within any quarter of the calendar year, the Department may initiate enforcement action and may include in that enforcement action any period of time that the parameter monitor was not recording accurate and reliable data during that quarter unless the licensee can demonstrate to the satisfaction of the Department that the failure of the system to record accurate and reliable data was due to the performance of established quality assurance and quality control procedures or unavoidable malfunctions.
   **Enforceable by State-only**

(28) **Semiannual Reporting**

The licensee shall submit semiannual reports every six months to the Bureau of Air Quality. The semiannual reports are due on July 31st and Jan 31st of each year. The facility's designated responsible official must sign this report.

The semiannual report shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date.

A. Each semiannual report shall include a summary of the periodic monitoring required by this license.
B. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.
[MEDEP Chapter 140]

(29) **Annual Compliance Certification**

PNS shall submit an annual compliance certification to the Department in accordance with Standard Condition (13) of this license by January 31 of each year. The facility's designated responsible official must sign this report.

The annual compliance certification shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date. Certification of compliance is to be based on the stack testing or monitoring data required by this license. Where the license does not require such data, or the license requires such data upon request of the Department and the Department has not requested the testing or monitoring, compliance may be certified based upon other reasonably available information such as the design of the equipment or applicable emission factors. [MEDEP Chapter 140]

(30) **Annual Emission Statement**

In accordance with MEDEP Chapter 137, the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

A. A computer program and accompanying instructions supplied by the Department; or
B. A written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator
**Maine DEP**
Bureau of Air Quality
17 State House Station
**Augusta, ME 04333-0017**

The emission statement must be submitted no later than July 1 or as otherwise specified in Chapter 137.

[MEDEP Chapter 137]

(31) **Air Toxics Emissions Statement**

If PNS exceeds the thresholds for HAPs listed in Appendix A of MEDEP Chapter 137 in an inventory year, in accordance with MEDEP Chapter 137 the licensee shall report for inventory years 2005, 2008, and every third year thereafter. The 2005 inventory year data is due no later than July 1, 2006. This information is necessary to accurately update the State's toxic air pollutants emission inventory by means of a computer program supplied by the Department or a written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions should be directed to:

Attn: Toxics Emission Inventory Coordinator
**Maine DEP**
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437 [MEDEP Chapter 137]

(32) **General Applicable State Regulations**

The licensee is subject to the State regulations listed below.

| Origin and Authority | Requirement Summary | Enforceability |
|---|---|---|
| Chapter 102 | Open Burning | - |
| Chapter 109 | Emergency Episode Regulation | - |
| Chapter 110 | Ambient Air Quality Standard | - |
| Chapter 116 | Prohibited Dispersion Techniques | - |
| 38 M.R.S.A. §585-B, sub-§5 | Mercury Emission Limit | Enforceable by State-only |

(33) **Units Containing Ozone Depleting Substances**

When repairing or disposing of units containing ozone depleting substances, the licensee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F.
[40 CFR, Part 82, Subpart F]

(34) **Asbestos Abatement**

When undertaking Asbestos abatement activities, PNS shall comply with the Standard for Asbestos Demolition and Renovation 40 CFR Part 61, Subpart M.

(35) **Risk Management Plan**

The licensee is subject to all applicable requirements of 40 CFR Part 68 (Risk Management Plan).

(36) **Expiration of a Part 70 license**

PNS shall submit a complete Part 70 renewal application at least 6 months prior, but no more than 18-months prior, to the expiration of this air license. Pursuant to Title 5 MRSA §10002, all terms and conditions of the Part 70 license shall remain in effect until the Department takes final action on the renewal of the Part 70 license An existing source submitting a complete renewal application under Chapter 140 prior to the expiration of the Part 70 license will not be in violation of operating without a Part 70 license.

(37) **New Source Review**

PNS is subject to all previous New Source Review (NSR) requirements summarized in this Part 70 air emissions license and remain in effect even if this Chapter 140 Air Emissions License, A-452-70-C-R, expires.

(38) **Annual Fee**

PNS shall pay the annual air emission license fee within 30 days of August 30th of each year. Pursuant to 38 MRST 353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under section 341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

**The term of this license shall be five (5) years from the signature date above.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 27, 2004
Date of application acceptance: October 8, 2004

Date filed with the Board of Environmental Protection _____

This Order prepared by Edwin Cousins, Bureau of Air Quality.